



BRITISH COLUMBIA  
CENTRE *for* EXCELLENCE  
*in* HIV/AIDS



Providence  
Health Care

# BC CENTRE FOR EXCELLENCE IN HIV/AIDS

KEY OUTPUTS, RESEARCH, POLICY & INNOVATION

REPORTING PERIOD 2023 - Q1 | APRIL 1 - JUNE 30



**“At a time in which our healthcare system is in crisis, Treatment as Prevention® provides a path forward to addressing many pressing public health threats. The framework of TasP® supports solutions that prevent morbidity, premature mortality, and transmission of infectious and syndemic conditions. As such, our work in HIV has proven that this framework promotes targeted disease elimination which uniquely contributes to healthcare sustainability and promotes health equity.”**

- BC-CfE RESEARCH SCIENTIST DR. KATE SALTERS

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BC-CfE 2023 QUARTERLY REPORT | Q1

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# GRANTS, AWARDS & FUNDING

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## Dr. Zabrina Brumme

2023 CAHR-CANFAR Excellence in Research Award.

Presented by Canadian Association of HIV Research (CAHR) & Canadian Foundation for AIDS Research (CANFAR)

## Dr. William Connors

Vancouver Coastal Health Research Institute (VCHRI) Innovation and Translational Research Award 2023

## Dr. Nance Cunningham

CAHR 2023 Young Investigator Award

## Dr. Natalie Kinloch

2023 Governor General's Gold Medal

## Drs. Katherine Kooij & Michael Budu

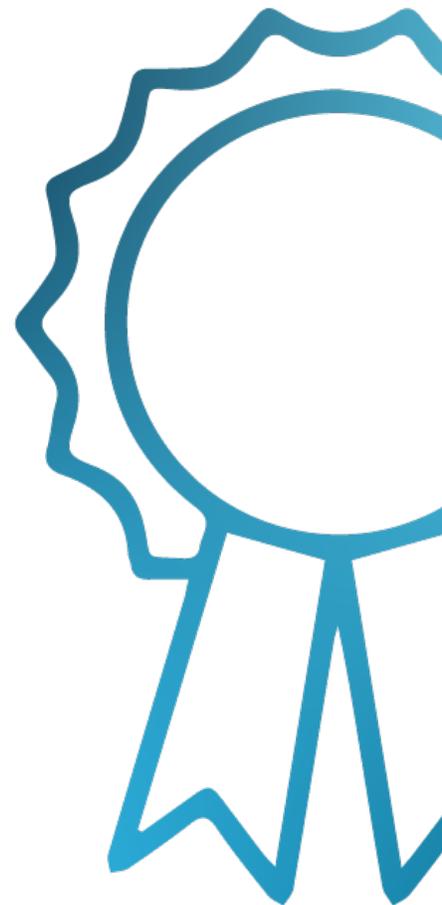
NIH Grant for their project: *The non-fatal overdose crisis: Sex and gender differences in healthcare utilization and health outcomes of people living with and without HIV between 2012 and 2020.* (\$136,778)

## Dr. Jeffrey Joy

Supplement grant for: *Understanding the transmission dynamics of infectious disease from sampling trees with a Bayesian evolutionary analysis framework: Taming the BEAST.* (\$10,000)

## Dr. Julio Montaner

CIHR-IPPH Trailblazer Award in Population and Public Health Research.  
Presented by Canadian Institutes of Health Research - Institutes of Population & Public Health (CIHR-IPPH)



# PRESENTATIONS & EDUCATIONAL SESSIONS

PRESENTATIONS & EDUCATIONAL SESSIONS

## BC-CfE Journal Clubs

**Can biomedical advances in HIV prevention and care also alleviate HIV-related mental distress among GBMSM?**

Tribesty Nguyễn  
April 13, 2023

**Tensions related to causal inference within epidemiology**

Megan Marzialis  
May 4, 2023

**Examining the relationship between health facility special organization and HIV stigma in Sub-Saharan Africa**

Miriam Muirhead  
June 15, 2023

## HIV/AIDS Webinar Learning Series

**Update on Sexually-transmitted and Blood-borne infections**

Dr. Natasha Press  
April 19, 2023

**Aging Well While Living with HIV**

Drs. Marianne Harris, Viviane Lima, and Silvia Guillemi  
May 17, 2023

**HIV Prepping for Pregnancy**

Dr. Melanie Murray  
June 21, 2023

PRESENTATIONS & EDUCATIONAL SESSIONS

## BC-CfE Hope to Health Learning Series

**Finding Our Way Home: Cultural Connections to Improve the End of Life Journey of Indigenous Patients in the Inner City**

Dr. Sue Burgess and Doris Prest  
April 12, 2023

**myoActivation for Chronic Pain**

Barb Eddy and Dr. Eddie Rooke  
May 3, 2023

**A Shared Pathway: Trauma and Anxiety to Addiction**

Dr. Martha Ignaszewski  
June 14, 2023

## BC-CfE Anniversary Conversation Series

**Chapter 5 | Building from Treatment as Prevention® - Where does HIV research and care go from here?**

Drs. Kate Salters and Rolando Barrios  
May 31, 2023

## Special BC-CfE/Antiretroviral Update

**30th Anniversary Antiretroviral Update**

Presenters:

Drs. Nora Volkow, Rolando Barrios, Pouya Azar, Peter Phillips, Val Montessori, Zabrina Brumme, and Julio Montaner

Moderators:

Drs. Marianne Harris and Silvia Guillemi  
June 9, 2023

PRESENTATIONS & EDUCATIONAL SESSIONS

Canadian Association for HIV/AIDS  
Research (CAHR) Conference 2023  
(April 27-30th 2023)

*Oral Presentations*

**Impact of Healthcare-Relationship and Experience History on Willingness to Access Hepatitis C Care Among People Who Use Drugs in British Columbia, Canada**  
Dr. Nance Cunningham

**Identification of people living with HIV in administrative healthcare records: A population-based data linkage study in British Columbia, Canada**  
Scott Emerson

**A Comparative Study of Nonfatal Overdoses in People With and Without HIV in British Columbia, Canada**  
Dr. Katherine Kooij

**Mind the Gap: Trends in Life Expectancy Among Men and Women Living With HIV in British Columbia, 1996 - 2020**  
Dr. Katherine Kooij

**Support for an HIV Reservoir Origin for Persistent Low-level Viremia During ART**  
Harrison Omondi

**“It has been life-changing for both patients and us”: the importance of Peers in bridging the gaps of health care connection for people living with HIV experiencing breaks from treatment**  
Tatiana Pakhomova & Rebekkah Parry

**“Kind of a decision, and kind of not a decision”: Examining experiences re-engaging with healthcare among people living with HIV who have had a recent treatment interruption**  
Dr. Kate Salters & Tim Wesseling

*Poster Presentations*

**Adherence to Oral Antiretroviral Therapy (ART) for People Living with HIV (PLWH) in Canada: A National, Retrospective Claims Analysis, 2010-2020**  
Dr. Jonathan Angel

**Self-Reported Cognitive Difficulties in the Clinic Setting over a 3-year Period: Does this provide information about performance-based cognitive ability in people living with HIV (PLWH)?**  
Dr. Marie Josee Brouillette

**The Association Between Rurality and 30-Day Hospital Readmissions Among People With and Without HIV: A Population-Based Cohort Study**  
Michael Budu

**Psychosocial and Structural Factors Associated with Improvements in Quality of Life Measures Among People Living With HIV (PLWH) in British Columbia, Canada.**  
Julia Clark

**Mpox cases in British Columbia’s population-level HIV treatment and pre-exposure prophylaxis (PrEP) programs**  
Raquel Espinoza

**Investigating HIV Viremia and Reservoir Size Following COVID-19 mRNA Vaccination in PWH on ART**  
Maggie Duncan

**Improving the HCV Cascade of Care Among People Who Use Drugs: A Rapid Pilot Program Evaluation and Implications for Future Interventions**  
Alannah Hannigan

**Neutralization of Omicron subvariants BA.5 and BQ.1 after four COVID-19 vaccine doses in PWH receiving ART**  
Hope Lapointe

**Cannabis-use and problematic use before and after legalization and COVID-19 among gay, bisexual and other men who have sex with men in Montreal, Toronto and Vancouver**  
Dr. David Moore

**Dynamics of neutralizing antibodies and memory B cells after three doses of COVID-19 vaccine in people living with HIV receiving suppressive ART**  
Dr. Francis Mwimanzi

**Application of OCAP® in Qualitative HIV Research: Lessons from the CARE Study**  
Dr. Kate Salters

**Variable upregulation of TIM-3 by Nef primary isolates, a potential diseaseenhancing strategy in HIV-1 chronic infection**  
Gisele Umvilighozo

**Investigating retention on OAT among people living with HIV who received at least one opioid agonist therapy dispensation in in British Columbia**  
Kiana Yazdani

**Updating the STOP HIV/AIDS program monitoring strategy to reflect the changing landscape of HIV/AIDS in British Columbia, Canada**  
Amanda Yonkman

Covid-19 Immunology Consortium - BC (June 16, 2023)

**Impact of age on the dynamics of T-cell responses following COVID-19 vaccination and breakthrough infection**  
Dr. Sneha Datwani

**Could COVID-19 mRNA vaccination stimulate the HIV reservoir?**  
Maggie Duncan

**Evaluation of COVID-19 Vaccine-elicited Binding and Neutralizing Antibody Responses in People Living with HIV Receiving Suppressive ART**  
Dr. Francis Mwimanzi

**Deconstructing the B cell response to COVID-19 vaccines using single-cell RNA sequencing**  
Rachel Waterworth

**Examining vaccine-elicited antibody responses against Omicron variants in older adults**  
Fatima Yaseen

### External Presentations

**Mind the Gap: Health Services Research to Improve Access to HIV Care and Treatment in BC**  
Centre for Clinical Epidemiology and Evaluation (C2E2)  
Dr, Kate Salters  
April 3, 2023

**Using machine learning and existing HIV monitoring data to forecast HIV transmission cluster growth**  
30th Dynamics and Evolution of Human Viruses  
Rachel Miller & Dr. Jeffrey Joy  
April 19-22, 2023

**Minimal impact of SARS-CoV-2 vaccination on intra-host viral evolution**  
30th Dynamics and Evolution of Human Viruses  
Drs. Vincent Montoya & Jeffrey Joy  
April 19-22, 2023

**Variable effectiveness of covid-19 travel restrictions countering different SARS-CoV-2 variants of concern**  
30th Dynamics and Evolution of Human Viruses  
Drs. Angela McLaughlin & Jeffrey Joy  
April 19-22, 2023

**Origins and evolution of HIV**  
Presentation at University College Dublin  
Dr. Jeffrey Joy  
April 20, 2023

**Global pandemic threats: emergence, spread and adaptation of SARS-CoV-2**

Presentation at University College Dublin  
 Dr. Jeffrey Joy  
 April 25, 2023

**Proviral Diversity and Dynamics on Long-Term ART: Insights from Within-Host Phylogenetic Reconstructions**

NIH Martin Delaney Collaboratory annual general meeting  
 Dr. Zabrina Brumme  
 May 1, 2023

**Current and Future Dynamics of the British Columbia HIV Epidemic**

Pharmacare Joint Funding Management Meeting  
 Dr. Jeffrey Joy  
 May 30, 2023

**Phylogenetic estimation of HIV transmission clusters in Manitoba**

Presentation to Manitoba Public Health  
 Dr. Jeffrey Joy  
 May 31, 2023

**Molecular Epidemiology and Phylogenetic Monitoring for HIV in Saskatchewan: Q4 and 2022 annual update**

Presentation to Saskatchewan Public Health  
 Dr. Jeffrey Joy  
 June 5, 2023

**Recent dynamics of the British Columbia HIV epidemic in PWUD**

Presentation to Dr. Nora Volkow National Institute of Drug Abuse (NIDA)  
 Dr. Jeffrey Joy  
 June 9, 2023

**Update on HIV transmission clusters in Saskatchewan**

Presentation to Saskatchewan Public Health  
 Dr. Jeffrey Joy  
 June 19, 2023

**Update on HIV transmission clusters in Manitoba**

Presentation to Manitoba Public Health  
 Dr. Jeffrey Joy  
 June 20, 2023

# PEER-REVIEWED JOURNAL ARTICLES & BOOK PUBLICATIONS

1: Pico-Espinosa OJ, Hull M, MacPherson P, Grace D, Lachowsky N, Gaspar M, Mohammed S, Truong R, Tan DHS. Reasons for not using pre-exposure prophylaxis for HIV and strategies that may facilitate uptake in Ontario and British Columbia among gay, bisexual and other men who have sex with men: a cross-sectional survey. *CMAJ Open*. 2023 Jun 27;11(3):E560-E568. doi: 10.9778/cmajo.20220113. PMID: 37369522; PMCID: PMC10310342.

2: Young J, Wang S, Lanière Delaunay C, Cooper CL, Cox J, Gill MJ, Hull M, Walmsley S, Wong A, Klein MB; Canadian Coinfection Cohort Investigators. The rate of hepatitis C reinfection in Canadians coinfecting with HIV and its implications for national elimination. *Int J Drug Policy*. 2023 Apr;114:103981. doi: 10.1016/j.drugpo.2023.103981. Epub 2023 Mar 7. PMID: 36893502.

3: Pico-Espinosa OJ, Hull M, Gaspar M, Lachowsky N, Grace D, Truong R, Mohammed S, MacPherson P, Woodward K, Tan DHS. Disjuncture between self-perceived and clinically assessed risk of HIV among gay, bisexual, and other men who have sex with men in Ontario and British Columbia, Canada. *BMC Public Health*. 2023 Jun 13;23(1):1133. doi: 10.1186/s12889-023-16065-0. PMID: 37312073; PMCID: PMC10262517.

4: Subedi S, Nanditha NGA, Tafessu HM, Nathani H, St-Jean M, Elefante J, Patterson TL, Honer WG, Montaner JSG, Lima VD. Healthcare utilisation and costs

associated with adherence to antipsychotics among people living with HIV/AIDS and schizophrenia: a population-based cohort study in British Columbia, Canada. *BMJ Open*. 2023 Apr 19;13(4):e070680. doi: 10.1136/bmjopen-2022-070680. PMID: 37076145; PMCID: PMC10124256.

5: Yazdani K, Dhillon N, Tung A, Ye M, Trigg J, Stanley C, Ni Gusti Ayu N, McLinden T, Lima VD, Barrios R, Hogg R, Montaner JSG, Salters K. Dynamics of overdose and non-overdose mortality among people living with HIV amidst the illicit drug toxicity crisis in British Columbia. *AIDS Care*. 2023 Apr 24:1-9. doi: 10.1080/09540121.2023.2195605. Epub ahead of print. PMID: 37094365.

6: Yazdani K, Dolguikh K, Ye M, Trigg J, Joe R, Emerson SD, Montaner JSG, Barrios R, Salters K. Characterizing opioid agonist therapy uptake and factors associated with treatment retention among people with HIV in British Columbia, Canada. *Prev Med Rep*. 2023 Jun 29;35:102305. doi: 10.1016/j.pmedr.2023.102305. PMID: 37519440; PMCID: PMC10382920.

7: Malama K, Logie CH, Sokolovic N, Skeritt L, O'Brien N, Cardinal C, Gagnier B, Loutfy M, Kaida A, de Pokomandy A. Pathways from HIV-related stigma, racial discrimination and gender discrimination to HIV treatment outcomes among women living with HIV in Canada: longitudinal cohort findings. *J Acquir Immune Defic Syndr*. 2023 Jun 26. doi: 10.1097/QAI.0000000000003241. Epub ahead of print. PMID: 37368938.

8: Moore D, Trottier H. Ongoing challenges three years after the start of the COVID-19 pandemic. *Can J Public Health*. 2023 Jun;114(3):325-327. doi: 10.17269/s41997-023-00776-3. PMID: 37103776; PMCID: PMC10136392.

9: Sang JM, Wong J, Ryan V, Cumming E, Wang L, Cui Z, Bacani N, Haag D, Lachowsky NJ, Cox J, Grace D, Otterstatter M, Morshed M, Edward J, Grennan T, Arkles J, Brownrigg B, Hogg RS, Moore DM. Examining the impacts of a syphilis awareness campaign among gay, bisexual, and other men who have sex with men (gbMSM) in British Columbia, Canada. *Can J Public Health*. 2023 Apr;114(2):295-307. doi: 10.17269/s41997-022-00690-0. Epub 2022 Sep 26. PMID: 36156198; PMCID: PMC10036687.

10: Sang JM, Gholamian B, Wang L, Barath J, Noor SW, Lachowsky NJ, Hart TA, Cox J, Lambert G, Grace D, Skakoon-Sparling S, Lal A, Parlette A, Apelian H, Jollimore J, Hogg RS, Moore DM. Examining differential success in recruitment using respondent driven sampling (RDS) in a multi-site study of gay, bisexual and other men who have sex with men. *BMC Med Res Methodol*. 2023 Jun 9;23(1):136. doi: 10.1186/s12874-023-01886-9. PMID: 37296373; PMCID: PMC10251682.

11: Skakoon-Sparling S, Card KG, Novick JR, Berlin GW, Lachowsky NJ, Adam B, Brennan DJ, Sang JM, Noor SW, Cox J, Moore DM, Grace D, Grey C, Daroya E, Hart TA. The relevance of communal altruism for sexual minority men in contemporary contexts. *J Community Psychol*. 2023 May;51(4):1461-1478. doi: 10.1002/jcop.22923. Epub 2022 Aug 6. PMID: 35932490.

12: DeKoven S, Naccarato M, Brumme CJ, Tan DHS. Treatment-emergent reverse transcriptase resistance during antiretroviral therapy with bicitgravir, tenofovir alafenamide, and emtricitabine: A case series

*HIV Med*. 2023 Jun 14. doi: 10.1111/hiv.13520. Epub ahead of print. PMID: 37317505.

13: Pakhomova TE, Nicholson V, Fischer M, Ferguson J, Moore DM, Salters K, Lester RT, Kremer H, Dawydiuk N, Barrios R, Parashar S. Exploring Primary Healthcare Experiences and Interest in Mobile Technology Engagement Amongst an Urban Population Experiencing Barriers to Care. *Qual Health Res*. 2023 Jul;33(8-9):765-777. doi: 10.1177/10497323231167829. Epub 2023 May 24. PMID: 37225177.

14: Hart TA, Noor SW, Berlin GW, Skakoon-Sparling S, Tavangar F, Tan D, Lambert G, Grace D, Lachowsky NJ, Jollimore J, Sang J, Parlette A, Lal A, Apelian H, Moore D, Cox J; Engage Study. Pre-exposure prophylaxis and bacterial sexually transmitted infections (STIs) among gay and bisexual men. *Sex Transm Infect*. 2023 May;99(3):167-172. doi: 10.1136/sextrans-2021-055381. Epub 2022 Jun 14. PMID: 35701145; PMCID: PMC10176373.

15: Stein O, Sang JM, Wang L, Cui Z, Zhu J, Lal A, Card KG, Lachowsky NJ, Hogg R, Moore DM. Factors associated with improvements in symptoms of anxiety and depression among gay, bisexual and other men who have sex with men (gbMSM) in Vancouver, Canada: A prospective cohort study. *J Affect Disord*. 2023 May 1;328:334-340. doi: 10.1016/j.jad.2023.02.048. Epub 2023 Feb 17. PMID: 36806593.

16: Jude MS, Yang CX, Filho FSL, Hernandez Cordero AI, Yang J, Shaipanich T, Li X, Lin D, MacIsaac J, Kobor MS, Sinha S, Nislow C, Singh A, Lam W, Lam S, Guillemi S, Harris M, Montaner J, Ng RT, Carlsten C, Paul Man SF, Sin DD, Leung JM. Microbial dysbiosis and the host airway epithelial response: insights into HIV-associated COPD using multi'omics profiling. *Respir Res*. 2023 May 4;24(1):124. doi: 10.1186/s12931-023-02431-4. PMID: 37143066; PMCID: PMC10161506.

17: Lapointe HR, Mwimanzi F, Cheung PK, Sang Y, Yaseen F, Umvilighozo G, Kalikawe R, Speckmaier S, Moran-Garcia N, Datwani S, Duncan MC, Agafitei O, Ennis S, Young L, Ali H, Ganase B, Omondi FH, Dong W, Toy J, Sereda P, Burns L, Costiniuk CT, Cooper C, Anis AH, Leung V, Holmes DT, DeMarco ML, Simons J, Hedgcock M, Prystajecy N, Lowe CF, Pantophlet R, Romney MG, Barrios R, Guillemi S, Brumme CJ, Montaner JSG, Hull M, Harris M, Niikura M, Brockman MA, Brumme ZL. People With Human Immunodeficiency Virus Receiving Suppressive Antiretroviral Therapy Show Typical Antibody Durability After Dual Coronavirus Disease 2019 Vaccination and Strong Third Dose Responses. *J Infect Dis.* 2023 Apr 12;227(7):838-849. doi: 10.1093/infdis/jiac229. PMID: 35668700; PMCID: PMC9214159.

18: Lapointe HR, Mwimanzi F, Cheung PK, Sang Y, Yaseen F, Speckmaier S, Barad E, Moran-Garcia N, Datwani S, Duncan MC, Kalikawe R, Ennis S, Young L, Ganase B, Omondi FH, Umvilighozo G, Dong W, Toy J, Sereda P, Burns L, Costiniuk CT, Cooper C, Anis AH, Leung V, Holmes D, DeMarco ML, Simons J, Hedgcock M, Prystajecy N, Lowe CF, Romney MG, Barrios R, Guillemi S, Brumme CJ, Montaner JSG, Hull M, Harris M, Niikura M, Brockman MA, Brumme ZL. Antibody response durability following three-dose coronavirus disease 2019 vaccination in people with HIV receiving suppressive antiretroviral therapy. *AIDS.* 2023 Apr 1;37(5):709-721. doi: 10.1097/QAD.0000000000003469. Epub 2022 Dec 22. PMID: 36545783; PMCID: PMC9994797.

19: Cheung PK, Lapointe HR, Sang Y, Ennis S, Mwimanzi F, Speckmaier S, Barad E, Dong W, Liang R, Simons J, Lowe CF, Romney MG, Brumme CJ, Niikura M, Brockman MA, Brumme ZL; and the COVID-19 vaccine immunity study team. SARS-CoV-2 live virus neutralization after four COVID-19

vaccine doses in people with HIV receiving suppressive antiretroviral therapy. *AIDS.* 2023 Apr 1;37(5):F11-F18. doi: 10.1097/QAD.0000000000003519. Epub 2023 Feb 14. PMID: 36789806; PMCID: PMC9994812.

20: Chambers C, Deeks SL, Sutradhar R, Cox J, de Pokomandy A, Grennan T, Hart TA, Lambert G, Moore DM, Grace D, Grewal R, Jollimore J, Lachowsky N, Nisenbaum R, Ogilvie G, Sauvageau C, Tan DHS, Coutlée F, Burchell AN. Vaccine Effectiveness Against 12-Month Incident and Persistent Anal Human Papillomavirus Infection Among Gay, Bisexual, and Other Men Who Have Sex With Men. *J Infect Dis.* 2023 Jun 28;228(1):89-100. doi: 10.1093/infdis/jiad005. Erratum in: *J Infect Dis.* 2023 May 12;227(10):1219. PMID: 36655513; PMCID: PMC10304758.

21: Sanders-Ber BE, Archin NM, Brumme ZL, Busch MP, Deleage C, O'Doherty U, Hughes SH, Jerome KR, Jones RB, Karn J, Kearney MF, Keele BF, Kulpa DA, Laird GM, Li JZ, Lichtenfeld MD, Nussenzweig MC, Persaud D, Yukl SA, Siliciano RF, Mellors JW. Current HIV/SIV Reservoir Assays for Preclinical and Clinical Applications: Recommendations from the Experts 2022 NIAID Workshop Summary. *AIDS Res Hum Retroviruses.* 2023 Jun 19. doi: 10.1089/AID.2022.0188. Epub ahead of print. PMID: 37126090.

22: Jones BR, Joy JB. Inferring human immunodeficiency virus 1 proviral integration dates with Bayesian inference. *Mol Biol Evol.* 2023 Jul 9;msad156. doi: 10.1093/molbev/msad156. Epub ahead of print. PMID: 37421655.

#### Invited Commentary

Harris M. Lenacapavir: an attractive option, but proceed with caution. *Lancet HIV.* 2023 Jul 11:S2352-3018(23)00170-4. doi: 10.1016/S2352-3018(23)00170-4. Epub ahead of print. PMID: 37451298.

## **Drug Treatment Program Monthly Reports**

December 2022 (released June 2023)

January 2023 (released June 2023)

February 2023 (released June 2023)

## **PrEP Semi-Annual Report for British Columbia**

Fourth Quarter 2022

## **HIV Monitoring Semi-Annual Report**

Fourth Quarter 2022



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